



# IONA and Open Source

## Open Source for the Enterprise SOA

IONA Technologies      June 2007

Whitepaper



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## Executive Summary

Open source software removes the barrier of upfront investment, reduces the risk of vendor lock-in and provides greater flexibility for users as they adopt and implement a service-oriented architecture (SOA). With IONA, organizations can take advantage of these benefits while working with the company chosen by BellSouth, Raymond James & Associates, Marconi, and DHL (Deutsche Post) to support their mission-critical applications.

**IONA's approach to open source service-oriented architecture (SOA) software combines the speed and innovation of open source software with the reliability and expertise of commercially provided enterprise services.**

IONA's commitment to open source software is part of its 15-year heritage of solving the most complex integration problems by applying open, standards-based solutions. An industry leader in integration and SOA, IONA has the proven expertise to design a highly flexible, distributed SOA infrastructure for the Global 2000 using standardized components. IONA customers built the first generation of SOA with its standards-based CORBA technology in the 1990s. IONA has extended that heritage with Artix, its advanced SOA infrastructure suite, and its leadership and involvement in a broad array of open source SOA projects.

In a free and open marketplace, the best ideas win. IONA shares its expertise, ideas and technology to create and deliver solutions that help customers succeed. IONA architects and developers participate in and provide leadership to open source projects including the SOA Tools Platform (STP) project at the Eclipse Foundation, and the ActiveMQ, ServiceMix and CXF projects at the Apache Software Foundation. In addition, IONA tests and validates specific releases of these technologies for release to enterprise customers under an open source license. IONA creates opportunities for enterprises to adopt open source software for mission-critical enterprise integration with a comprehensive set of services, including support, training, custom development and consulting.

By actively supporting the efforts of the open source community while providing solutions designed for the requirements of enterprise IT, IONA leads the way for enterprises to realize the benefits of open source software in their infrastructure. With open source, customers gain greater choice and control with lower total cost of ownership.



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# IONA Open Source Product Offerings

IONA makes it easier to use open source SOA infrastructure by providing leading open source technologies in certified releases that are fully tested, validated and supported for enterprise use. IONA validates the interoperability of the products to give customers the most flexible approach to service-oriented integration.

IONA's family of distributed, open source SOA infrastructure components is built on four key products: the FUSE Message Broker, the FUSE ESB, the FUSE Services Framework, and the FUSE Mediation Router.

## FUSE ESB

Based on the Apache ServiceMix project, the FUSE ESB is the integration solution that frees architects from the dependencies among integration technologies that have traditionally locked enterprises into proprietary stacks. One of the first shipping implementations of the Java Business Integration (JBI) specification, the FUSE ESB supports any JBI-compliant binding for connectivity, and enables any JBI-compliant engine to be integrated into the SOA backplane for message processing. Any standards-compliant technology – from any commercial software vendor, bespoke systems developer, or open source project – can leverage the FUSE ESB to deploy to an organization's infrastructure.

The FUSE ESB can be deployed to any Java environment, and can be embedded in applications and deployed to endpoints via the Spring Framework. It supports a wide range of protocols and transports, and is provided with a number of JBI components for transformations and routing.

## FUSE Message Broker

The FUSE Message Broker is a high performance solution for reliable messaging based on the Apache ActiveMQ project, the leading open source JMS platform for enterprise messaging. The FUSE Message Broker provides high performance, unlimited scalability, and mission-critical reliability for distributed enterprise computing. As an open source solution, the FUSE Message Broker provides the foundation for a truly cost-effective and flexible messaging platform that can scale across the enterprise, reliably executing transactions and moving data, efficiently scaling operations, and connecting processes across heterogeneous database and application environments.

With connectivity via the STOMP and OpenWire protocols, the FUSE Message Broker extends to numerous non-Java environments, including clients in C/C++, .NET, Perl, Python and Ruby. The FUSE Message Broker provides numerous options for performance optimization and persistence including working with any JDBC-compliant database. A lightweight broker that can be deployed to virtually any Java environment and embedded with applications, the FUSE Message Broker supports an enormous range of configurations, network topologies and distributed application architectures.



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## FUSE Services Framework

The FUSE Services Framework is a pluggable service framework based on the Apache CXF project, and it provides the easiest environment available for Java developers to create Web services. The FUSE Services Framework is the only services framework that fully implements the JAX-WS 2.0 specification, radically simplifying the process of exposing existing Java code as a Web service or writing new Web services. The FUSE Services Framework enables developers build high-performance Web services that are scalable, secure, and robust in minutes, freeing them to concentrate on the core aspects of their applications.

The FUSE Services Framework makes it easy to create new and existing services across heterogeneous environments by providing design-time tools and runtime infrastructure that are technology-neutral. The pluggable and extensible architecture allows the FUSE Services Framework's small footprint to work in a variety of container servers, with a variety of languages, and with several messaging systems.

## FUSE Mediation Router

The FUSE Mediation Router is a powerful solution for message routing based on the Camel project at the Apache Software Foundation. The FUSE Mediation Router is a tool for routing and process mediation that combines the ease of basic POJO development with the clarity of the standard Enterprise Integration Patterns. It's designed to be used with message brokers like the FUSE Message Broker, within the FUSE ESB or with the FUSE Services Framework or as a stand-alone framework using one of its many transports.

## IONA Open Source Services

IONA leverages its significant expertise in large-scale, mission-critical, distributed systems to combine the benefits of open source with the assurance of enterprise-class technical support. IONA provides a comprehensive set of services to ensure success using IONA's open source offerings. With IONA support, training and consulting, companies build production-quality solutions with confidence. Support packages range from incident-based offerings to enterprise support for mission-critical environments.

## Enterprise Support for Open Source Offerings

Interoperable, open source products built on industry standards allow companies to choose which components to leverage and what level of support is required. Avoid the limitations of community provided support by subscribing to enterprise-class support services from a trusted vendor like IONA.

IONA's distributions of open source SOA software, the FUSE product family, undergo rigorous testing and certification. By subscribing to IONA open source services, organizations can mitigate the uncertain timeframes and development roadmaps often associated with open source.



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## Technical Support

IONA support packages combine the confidence of working with an experienced and professional organization with the innovation and cost savings of open source software. IONA brings the best of both worlds together in a safe and secure environment.

All IONA support packages are designed to support all projects, from small trials to large, mission-critical installations. The packages provide prompt and reliable technical support to help optimize development time and maximize the return on existing and future IT investments.

## Consulting

IONA couples its commitment to open source with years of experience helping customers deploy distributed computing environments to deliver consulting packages designed to make teams productive and self-sufficient as quickly as possible.

IONA consulting combines the safety and security of working with an experienced and professional organization with the innovation and cost savings of open source software. IONA offers a quick start package and customized consulting that reduces risk and shortens development time by guiding teams through the entire project lifecycle from initial requirements gathering, architecture and design to implementation and deployment.

## Training

IONA has applied its years of teaching, speaking, publishing and consulting experience to its open source offerings, resulting in training that delivers comprehensive preparedness for all open source endeavors. IONA training courses combine the safety and security of working with an experienced and professional organization with the innovation and cost savings of open source software. Training courses are available for both developers and architects, and are designed to support all projects from small trial to large, mission-critical installations. The courses teach how to fully leverage IONA's open source solutions using real-world case studies and how to identify areas where IONA can deliver immediate business value to maximize the return on existing and future IT investments.



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## IONA's Leadership in Open Source

IONA understands that open source is more than a new model for software distribution – it is a new model for software development that can bring hundreds or thousands of developers together to pursue a common product vision. Open source is also a software development methodology that brings IT architects and product developers closer, in an open forum. IONA employs a number of leaders and participants in the open source projects that are most critical to its open source offering, and it engages with the users of its open source technologies in its community at <http://open.iona.com>.

### IONA and Eclipse

As a Strategic Member of the Eclipse Foundation, IONA contributes dedicated, experienced development resources and is leading the Eclipse SOA Tools Platform (STP) project, a top-level project whose mission is to provide best-of-breed, SOA tooling. Several IONA developers are committers for the STP project and IONA promotes Eclipse and its STP efforts as an integral part of its product line. IONA's CTO, Eric Newcomer, is an Eclipse board member, and Oisin Hurley, IONA Distinguished Engineer and is the project lead for the STP Project.

### IONA and the Apache Software Foundation

The Apache Software Foundation provides support for the Apache community of open source software projects. The Apache projects are characterized by a collaborative, consensus-based development process, an open and pragmatic software license, and a desire to create high quality software that leads the way in its field. As an independent foundation, the Apache Software Foundation does not endorse software vendors or commercial organizations. However, IONA supports its technologists who lead development projects at Apache and endorses the Apache process, and IONA distributes code from Apache projects under the Apache License.

### IONA and the OSGI

The Open Services Gateway initiative (OSGi) Alliance is a worldwide consortium of technology innovators that advances a proven and mature process to assure interoperability of applications and services based on its component integration platform. OSGi is also heavily used in the embedded market. The alliance provides specifications, reference implementations, test suites and certification to foster a valuable cross-industry ecosystem.

OSGi specifications modularize and componentize the Java™ platform and allowing applications to be dynamically provisioned and managed. IONA's CTO, Eric Newcomer, is co-chair of the OSGi Enterprise Expert Group, which is chartered to define the next generation of OSGi specifications and technologies.



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## IONA and the Java Community Process

A number of IONA developers participate in the Java Community Process (JCP) to review, comment and vote on Java Specification Recommendations (JSRs), for example, JAX-WS and JBI. Our products are based on open source projects focused on key open standards, like Apache ActiveMQ for JMS, Apache ServiceMix for JBI and Apache CXF for JAX-WS.

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